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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/727,247	12/03/2003	Hans-Wilm Heinrich	KH-2017	5407

7590

02/07/2005

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EXAMINER

MAI, NGOCLAN THI

ART UNIT	PAPER NUMBER
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1742

DATE MAILED: 02/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/727,247

Applicant(s)

HEINRICH ET AL.

Examiner

Ngoclan T. Mai

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-35 is/are pending in the application.
- 4a) Of the above claim(s) 1-20 and 30-35 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 21-29 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>4/26/04</u> . | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Election/Restrictions

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 1-20 and 35, drawn to sintered cemented carbide body, classified in class 75, subclass 236.
 - II. Claims 21-29, drawn to method of making, classified in class 419, subclass 14.
 - III. Claims 30-34, drawn to cutting tool, classified in class 428, subclass 698.

The inventions are distinct, each from the other because of the following reasons:

2. Inventions I and III are related as mutually exclusive species in an intermediate-final product relationship. Distinctness is proven for claims in this relationship if the intermediate product is useful to make other than the final product (MPEP § 806.04(b), 3rd paragraph), and the species are patentably distinct (MPEP § 806.04(h)). In the instant case, the intermediate product is deemed to be useful as die face materials and the inventions are deemed patentably distinct since there is nothing on this record to show them to be obvious variants. Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions anticipated by the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

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3. Inventions II and I are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case the product as claimed and be made by infiltrating a body of WC particles with metal binder, heating and pressing the infiltrated body effectively to bond the carbide with the metal binder.
4. Inventions II and III are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the different inventions have different functions.
5. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification and the search required for one group is not required for other groups, restriction for examination purposes as indicated is proper.
6. Mr Prizzi left the examiner a voices mail message on January 5, 2005 making a provisional election with traverse to prosecute the invention of group II, claims 21-29 which was confirmed in a telephone conversation with Mr. Prizzi on January 5, 2005. Claims 1-20 and 30-35 have been withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 21, and 24-29 are rejected under 35 U.S.C. 102(b) as being anticipated by Ichikawa et al.

Ichikawa discloses a method for making cemented carbide endmill comprising blending WC powder, one or more carbides, nitrides and carbonitrides of Ti, Ta, Nb and/or Zr and solid solution thereof, 5-25% Co powder as the binder phase, pressing the above powder mixture to form a green compact and vacuum sintering at a temperature within the range of 1350 °C –1500 °C. See col. 1, line 55-67, col. 2, lines 25-34, col. 4, lines 9-22. Ichikawa discloses employing solid solution of carbide and carbonitride of both Zr and Nb in Table 2, compositions s, t and u.

Regarding claim 25, Ichikawa teaches binder can contain Cr and/or V., col. 2, line 65 to col. 10.

Regarding claim 27, Ichikawa discloses employing TiCN as additional powder in table 2, composition t. Ichikawa also teaches when coated cemented carbide endmill is made, Cr and V can be used in the form of carbide or nitride powder. See col. 3, lines 11-16.

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Regarding claim 28, Ichikawa discloses employing from 0.1 to 5% of powder including solid solution of carbide or carbonitride of both Zr and Nb, see col. 1, lines 59-63, table 2, compositions s, t, and u.

Regarding claim 29, Ichikawa discloses employing 0.1 to 2% of Cr and/or V. See abstract and col. 3, lines 5-10.

9. Claims 21, 22-24, 26, 27, and 28 are rejected under 35 U.S.C. 102(a) as being anticipated by Usami et al (2003/0129456 A1 now Usami).

Usami disclose the claimed method of making cemented carbide cutting tool comprising mixing tungsten carbide powder, a binder phase of iron-group metal, at least two solid solution phases selected from carbide, nitrides and carbonitrides of metals of the groups 4a, 5a and 6a in the Periodic Table and containing Zr and Nb, wherein the content ratio of Zr/(Zr+Nb) may be 0.5 –0.7 (~ Nb/(Nb+Zr) = 0.3-0.5), forming the powder mixture into a molded product, and sintering the molded body by vacuum sintering at 1350-1500 °C. see paragraphs [0104]-[0112] and [0124]-[0125]

Regarding claims 22-24 of the instant application, the limitations of these claims are disclosed in table 3, sample Nos 13, 16, and 18.

Regarding claim 26 of the instant application, Usami teaches this limitation in paragraph [0120].

Regarding claim 27 of the instant application, Usami teaches this limitation in paragraph [0118] and [0092].


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Regarding claim 28 of the instant application, Usami teaches this limitation in paragraph [0116].

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ngoclan T. Mai whose telephone number is (571) 272-1246. The examiner can normally be reached on 9:30-6:00 PM Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on (571) 272-1244. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Ngoclan T. Mai
Primary Examiner
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n.m.